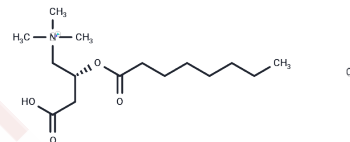


L-Octanoylcarnitine hydrochloride

Chemical Properties

CAS No. : 54377-02-5
 Formula: C₁₅H₃₀ClNO₄
 Molecular Weight: 323.86
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.



Biological Description

Description	L-Octanoylcarnitine hydrochloride (C8:0) is a medium-chain acylcarnitine and a physiologically active plasma metabolite of octanoylcarnitine. It serves as an essential intermediate in the mitochondrial beta-oxidation pathway, facilitating the transport of medium-chain fatty acids across the mitochondrial membrane. It is widely utilized in research concerning breast cancer metabolism, arterial stiffness in overweight individuals, and mitochondrial dysfunction. Elevated levels of C8 carnitine are often indicative of incomplete fatty acid oxidation and are closely linked to oxidative stress and metabolic disorders.
Targets(IC50)	Endogenous Metabolite
In vitro	L-Octanoylcarnitine hydrochloride (0.2 mM) induces H ₂ O ₂ release in mitochondria, suggesting it promotes oxidative stress by interfering with the electron transport chain, a mechanism relevant to neurodegeneration and metabolic damage [1].
In vivo	In obesity models, L-Octanoylcarnitine hydrochloride dysregulation is linked to impaired detrusor mitochondrial function and bladder dysfunction [2].

Solubility Information

Solubility	DMSO: 80 mg/mL (247.02 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0878 mL	15.4388 mL	30.8775 mL
5 mM	0.6176 mL	3.0878 mL	6.1755 mL
10 mM	0.3088 mL	1.5439 mL	3.0878 mL
50 mM	0.0618 mL	0.3088 mL	0.6176 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Schönfeld P, Reiser G. Inhibition of β -oxidation is not a valid therapeutic tool for reducing oxidative stress in conditions of neurodegeneration. *J Cereb Blood Flow Metab.* 2017 Mar;37(3):848-854.

Hanna Kosnik, et al. CHRONIC HIGH FAT DIET IMPAIRS DETRUSOR MITOCHONDRIAL FATTY ACID OXIDATION IN MALE BUT NOT FEMALE MICE. *Journal of UrologyBladder & Urethra: Anatomy, Physiology & Pharmacology I (MP11)*1 Apr 2019.

Kim M, et al. Association between arterial stiffness and serum L-octanoylcarnitine and lactosylceramide in overweight middle-aged subjects: 3-year follow-up study. *PLoS One.* 2015 Mar 17;10(3):e0119519.

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